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EDUCATIONAL RESEARCH

In Norway In the Twentieth Century

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**U.S. DEPARTMENT OF
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Foreword

The evolution of education as a university discipline and as an area for serious research is herein described by an eminent Norwegian professor of education, Dr. Johs. Sandven.

Researchers on American education will be struck by certain obvious parallels between Norway and the United States. In both countries education as a science emerges around 1900, though Professor Sandven cites as American forerunners the work of G. Stanley Hall and the establishment of the National Society for the Study of Education near the end of the 19th century.

In both countries, developments by the 1920's had reached the stage where professors of education were being proposed as additions to the traditional universities' faculties. In United States institutions of higher learning such professors were actually forming a university faculty or school of education by the late 1920's. In Norway the suggestion that a professorship of education be created at the University of Oslo was discussed in the 1920's, but final approval came late in the 1930's.

The first scholar to occupy this professorship of education was an eminent researcher, Dr. Helga Eng, whose scholarly work goes back to her doctoral dissertation of 1912. Dr. Sandven succeeded Dr. Eng at the University of Oslo after World War II and is eminently qualified to report on past and present educational research in Norway.

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Introduction

The science of education in Norway covers a wide field. It includes child psychology and the psychology of adolescents, educational psychology, educational methods, philosophy of education and the history of the school system. It is scarcely possible to make any sharp distinction between education as a subject and other social sciences.

Educational research has had a relatively short period of development in Norway. Empirical research, with a view to clarifying conditions of importance to educational activity, was begun at the end of the 19th century. The rudiments of child psychology originated after the publication of W. Pfreyer's book, *Die Seele des Kindes* (The Mind of the Child) in 1882, and Stanley Hall's basic research into the imaginative life of the child. There gradually arose, in many countries, a keen interest in the child as a research object, and a number of organizations were founded to further the study of children. The first of these, The National Society for the Study of Education, was established in the United States in 1893. The results of the many research projects within the field of developmental psychology and educational psychology eventually accumulated to the point that, to achieve the value they deserved for practical teaching purposes, it was necessary to present them collectively.

Thus, E. Meumann's *Experimentelle Padagogik* was published in 1907, and in an expanded edition in 1914. In the United States, E. L. Thorndike issued his *Educational Psychology* in one volume in 1903, and in three volumes in 1913.

In Norway, as in a number of other countries, much time elapsed before an understanding of the importance of educational research became widespread. Allowing for a certain degree of simplification, one may designate four main stages in the development of educational research in Norway in the 20th century.

1. *Early decades to 1930:* Research by independent workers without support of any scientific body and unrelated to any institution for educational research.
2. *1930-1940:* Independent research continued and was aided by the evolution of agencies to promote educational research: reestablishment of the professorship of education; the creation of an Institute for Educational Research at the University of Oslo; formation of a committee for edu-

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- tional research by the city of Oslo and nearby communities; and the establishing of the Norwegian Carnegie Committee to study school examinations.
- 3. *World War II and early postwar:* Despite obstacles, efforts continued which provided valuable experience for immediate postwar development.
 - 4. *Developments from 1950:* Highlighted by the formation of the Norwegian Research Council for Science and the Humanities, one section of which deals with psychology, education, and youth problems.

Independent Research Workers to 1930

In the present study it is not possible to describe all the projects which could be included in a more complete analysis. Nor is it easy to draw a line between work which can be described as of a purely investigatory nature, and that of a wider and more popular scope, with the dissemination of information as its aim.

Pioneer Efforts

Research in Norway within the field of the history of education was in the foreground prior to 1930, while, on the other hand, little work was based on empirical investigations. The history of the Norwegian school from 1739 to 1842, with special emphasis on the general education of the people, was thoroughly treated in a 2-volume work by Torstein Hoverstad.¹ Apart from this, only a few publications about the educator, Ole Vig,² or those connected with the Jubilee Year 1914, celebrating the 100th birthday of modern-day Norway, can be said to have made any contribution to the history of the elementary school.³

Two notable works on secondary schools,⁴ by A. E. Richsen, presented the history of two of Norway's oldest Cathedral schools, in Bergen and Trondheim, and served as a source of inspiration for later research in the history of education. From time to time, the histories of other schools were published, such as I. F. W. Neuberth's book on the Tordenskiold school,⁵ and E. Aas's on the Cathedral School in Stavanger.⁶ In 1910, R. Stauri published an outline of the history of the folk high schools in Scandinavia,⁷ and in 1920, A. Bechholm brought out his historical work on the education of elementary school-teachers in Norway.⁸ The subject of Trygve Dokk's doctoral thesis, published in 1929,⁹ was the historical development of religious and ethical education.

The general history of Norwegian education and the development of the philosophy of education were discussed in some widely read works by Otto Anderssen, one of which dealt with the relation between realism and classicism.¹⁰ The grammar school in Norway was the subject of a book by Einar Sigmund.¹¹ Helga Eng's book on art education described the beginning of the teaching of art in England, its further

¹ All text references with English translation of titles are listed at the end of this study.

development by German teachers, and the methods employed in Scandinavian countries.¹²

As regards educational research of an empirical nature, comparatively few projects were carried out in the decades up to 1930. Knowledge of the extensive educational research work in other countries was still lacking. That the child's development and peculiarities in the learning process could be made the subject of scientific investigation had not yet been realized to the extent that organized research in this field was seriously considered. A beginning was made in 1899 with the appearance of the first Norwegian work in the field of child psychology, a brief study of color sense in children, by K. B. R. Aars.¹³ In 1904, E. Aars published his investigation of "thinking" and "will" in school children, based on questionnaires answered by teachers.¹⁴ The endeavor, though somewhat fumbling and vague, showed that empirical study of the child was beginning to mature. In his introduction, the author indicated that Norway was not unaware of developments in other countries.

With the exception of individual works on school hygiene by doctors, investigations with school children as their subject are little known here. In other parts of Europe and America there have been a great many investigations of different kinds carried out. In spite of this, it must be stated that the work is still in its infancy. The science of education must in the same way be said to be in its early stages, even though both here and in larger countries there is a fund of educational experience which, individually, has been organized into systems (Comenius, Pestalozzi, Herbart). The accumulated experience from teaching must, however, be connected with an examination of the most varied aspects of the child's spiritual and physical life, before, using this as a basis, any future educational theories can be built up. The theories being determined by genuine educational values and aims must again be examined separately or seen in relation to their contexts.

Child Study Begins

Modest as it was, the educational research of the first two decades of this century laid a foundation for further efforts. Helga Eng's thesis for her doctorate, in 1912, was the first extensive and important work in Norway in the field of child study.¹⁵ The thesis was based on an investigation of the understanding of abstract concepts by school children aged 10 to 14 years. Around this same time, A. Aall analyzed a focal educational problem of children between 7 and 16 years of age, namely the importance of the attitude of the child concerning the use of what he learns.¹⁶ M. L. Reymert, meanwhile, by means of the interview method had carried through a study of the ideals of children and published the results in 1915.¹⁷ Research on the intelligence of school children in Norway dates back to 1913 when the investigations of C. Loof were published¹⁸ but it was a long time before more systematic work within this field was carried out. Interest in developmen-

tal psychology and educational psychology was stimulated by the different publications of Søren Nordeide, particularly by his book on psychological development from infancy to maturity, which was published in 1919.¹⁹

In 1921, Helga Eng's study on the emotional life of the child compared with that of the adult was published.²⁰ It described investigations of the changes taking place in the circulation of the blood and the respiratory system when emotions are involved. By means of systematic experiments she found no differences between children and adults in these physiological changes, except that the feelings of children were, by and large, connected with sensory impressions, and those of adults more often with personal spiritual experiences. Another work by Eng on concepts and language of children at the school entrance age was published in 1923.²¹ Here she formulated the results of a comparative study of attitudes and concepts among urban and rural children. Helga Eng was also keenly interested in the characteristics of children's drawings. She had ample opportunity to observe this development in her young niece, from the first short, uncertain strokes at the age of one year to the large colored drawings in her later childhood. Helga Eng presented the results of these studies in a book published in 1926.²²

Other kinds of educational research were getting underway, such as the experiments originated by B. Ribsskog on the psychology of learning. He sought to determine whether the time interval between the initial learning and a repetition of the task was of significant importance. The results of his research were published in a doctoral thesis in 1931.²³

Prior to 1930, there were no scientific bodies or research institutions specifically devoted to educational research. It is true that in 1909, Otto Anderssen had been appointed professor of education at the University of Oslo, where he remained until 1922. His position was, however, more that of director of the education seminar, which prepared candidates for the teaching certificate. At that time no degree was offered in education. After the death of Otto Anderssen, the professorship in education was discontinued.

In 1922, the Norwegian College for Teachers in Trondheim was founded as an advanced training college, only for teachers who had already obtained their teaching certificate and who had some teaching experience. While some impetus was given to the study of education, the new college for teachers offered only a 1-year program, thus ruling out any extensive educational research.

In 1922, however, the Norwegian Women Teachers' Association made application to the authorities to establish a Readership in Child

Psychology and Educational Psychology at the University of Oslo. Although this application was rejected, the effort of the association was proof of a growing realization of the importance of scientific work in the field of education.

Organizing Educational Research During the 1930's

A significant plea for support of educational research came in 1933 in a report from the School Committee of the Teachers Associations, which included representatives from the elementary teachers associations.

In almost all fields, definite research work is in progress. It is becoming more and more apparent that this is absolutely necessary in order to obtain the best possible results. The school is no exception in this case. It is just as impossible to find the best teaching methods and educational aids, the most suitable material and the most favourable school organisation etc., from pure speculation, as it is in the same way to arrive at the best methods and means of operation in, for example, agriculture and industry.

True and certain progress in the case of the school can only be achieved by empirical means, and first and foremost by experiments of various kinds.²⁴

The next step came in 1934 when the teachers' organizations appealed to the public to support Norwegian educational research. In this appeal, as in the 1933 report of the School Committee of the Teachers Associations, it was strongly emphasized that research to promote reform of the schools was at least as necessary as any other research projects. Moreover, it was no longer sufficient to proceed according to suppositions and estimations; educational research was needed.

New Professorship of Education

In January 1935 the boards of the teachers' organizations (the Norwegian Teachers Association, the Norwegian Women Teachers Association, the National Association of the Philologists and Realists) sent an appeal to the Ministry of Church and Education to propose to the Parliament (Storting) that an institute for educational research be established in Oslo with a grant of Kr. 20,000 (approximately \$2,800—U.S.A.)* for its activities. In January 1935, it was further proposed that there be established a Chair of Educational Psychology at the University of Oslo.

*7.16 Norwegian crowns (K.R.) = \$1—U.S.A.

The Ministry canvassed the opinions of the University of Oslo, the Council of Secondary Education, the Council of Teacher Education and the Council of Vocational Education, all giving their full support to the plan. The Ministry also agreed that there should be a state grant to an institute for educational research, that it should be affiliated with the University, and that its director should be the future Professor of Educational Psychology in the University. In contrast to the teachers organizations, which had given priority to the institute of education, the Ministry, in agreement with the Senate of the University, was of the opinion that the professorship had to come first, a view shared by the members of the Parliament during the ensuing debate.

The Parliament Committee for Church and Education fully supported the Ministry's proposal, both for the professorship and the institute. The committee's report was accepted unanimously by Parliament, and applications for the professorship of education were accepted as of June 1936. The position was announced as conditional on the professor becoming head of the Institute for Educational Research, which was to be established. Even though there was little hope of putting the institute into operation during the fiscal year 1936-37, the Ministry had set aside kr. 5,000 as the first contribution.

The new professor, Dr. Helga Eng, was not confirmed in her appointment until January 1, 1938, and since she was immediately faced with the task of establishing educational psychology as a new subject in the university, the institute for research was still in a formative stage at the outbreak of World War II.²⁵

School Board Research Committee

During the 1930's other attempts had been made to form research bodies within the field of education. For example, in 1935, the municipal school boards in Oslo and in the neighboring community of Aker had collaborated in founding a committee for educational research, with the Inspector of Schools in Oslo, Dr. B. Ribsskog, as chairman. Under his energetic leadership the committee, with financial support from the municipalities of Oslo and Aker, immediately began research work of wide scope and current interest to the schools.

By 1936 the committee was able to issue the first in its series of publications, a work by Dr. Ribsskog and A. Aall on teaching plans in the elementary school.²⁶ In 1935-36, new laws had been enacted dealing with the elementary and secondary schools, thereby introducing a complete revision of the norms for teaching. Hence, investigations reported by Ribsskog and Aall were accorded great interest, and undoubtedly affected the teaching norms developed at the end of

the 1930's. According to the authors, the investigations showed first and foremost that school material had been too difficult for most of the pupils. The amount of memory work in school, according to the authors, should be reduced considerably to the advantage of more independent and interesting work for the pupils.

Another publication was issued by the committee in 1936, a Norwegian norm of Rostad's "Standard Test" in problem solving.²² In 1937, a study on the measurement of intelligence in the first grade of the elementary school was published by J. Lofthus, A. Rasmussen and B. Ribsskog.²³ Earlier, Lofthus, using the Stanford revision of the Binet tests, had prepared an intelligence scale for individual testing, adjusted to and with norms for Norwegian conditions. He had presented this as his doctoral thesis in 1931.²⁴ In the 1937 study, Lofthus, Rasmussen and Ribsskog built on the test devised by Marie Pedersen, leader of the school for mentally retarded children in Trondheim. This test had been standardized by Pedersen, 1928-31, on the basis of tests administered in the first to fourth grades in the elementary school in Trondheim.²⁵

Ribsskog's investigation of the reliability of marks and their advantages and disadvantages was published in 1938 as part of the series by the Oslo-Aker school board committee for research.²⁶ A year later, in 1939, the committee published a study by Østlyngen²⁷ to throw light on the attitude of pupils to school, to the different subjects taught, and to various aspects of school life.

Norwegian Carnegie Committee

Another attempt at organizing educational research in the 1930's was the establishment of the Norwegian Carnegie Committee to investigate the examination system. The committee was formed in 1937 with Professor Sem Saeland, and after his death, headmaster Joh. Hertzberg, as chairman. Various investigations were undertaken, and the results of several were published in the form of articles and reports. The Carnegie committee did not, however, report to any great extent until after World War II, when an investigation by Olav Sundet on examinations and school work was published.²⁸ The object of Sundet's research was the important question of the influence of the matriculation examination, at the end of the secondary school, on the day-to-day work in schools, and valuable insights were advanced in this book.

Research By Individuals

Although the efforts made in the 1930's were to a great extent concentrated on the establishment of the necessary research bodies, considerable work was accomplished by independent research workers.

In 1935 Helga Eng published Rolv Rime's diary, with extensive commentaries.²⁴ K. Mønnesland published group intelligence tests in two series for children between 8 and 14 years of age.²⁵ E. Aas issued the results of a comparative study of effort, growth and intelligence in Norwegian adolescents, and also published a history of Kristiansand Cathedral School.²⁶ Hans Bergersen completed a study of the material used in the teaching of the mother tongue, and gave an account of his conclusions in a book published in 1935.²⁷ Signy Arctander and Sigurd Dahlstrøm were authors of a work based on a social statistical survey on the condition of children cared for by the councils for child welfare.²⁸ On the basis of further social statistical studies undertaken after the death of Dahlstrøm, Signy Arctander issued another study concerning the education and upbringing of such children.²⁹

War Years and Early Postwar Developments

With the administrative measures initiated in the 1930's in partial operation, the conditions for educational research in Norway were comparatively good. The Institute for Educational Research, however, could not yet be expected to have such dimensions as were originally envisioned when it was established. The prerequisite for its effective functioning was clearly that its tasks should be assumed by people with the necessary professional qualifications. Since previously there had been little organized scientific educational studies under expert leadership, it was natural that only a few individuals were prepared to take part immediately in educational research work.

At this crucial time, when preparations for greater tasks in educational research were about to begin, the war came. With the prevailing uncertainty, long term planning often seemed meaningless, even though during the early part of the war no direct restrictions were placed on studies and research work. Though any great advancement was limited or prevented, students who aimed at the master's degree in education, or who studied education as a main subject, undertook such extensive tasks for their theses that they were able to arrive at results of far-reaching importance. Some of the completed theses were printed with the help of financial support from the Institute for Educational Research.

As early as 1941 the Institute published a thesis on silent reading by Karl Bakke,⁴⁰ in which he discussed psychological and educational problems in reading, and his results with a reading test which he had worked out and standardized. In 1942, the second in the series of the Institute's publications appeared, a study by Leiv H. Wettre of reading interests among pupils in the higher grades of the secondary schools.⁴¹ On the basis of personal investigations Wettre had set out to discover what kind of literature the pupils chose to read outside school hours, which books they appreciated most, and which qualities in these books caused them to be valued so highly. In 1943 the Institute succeeded in publishing a third book, a report by Johs. Sandven on the measurement of intelligence by group tests.⁴² This

work discussed a number of problems in intelligence group testing, and presented the results of tests carried out on pupils in the last form of the elementary school, using the test Sandyen had constructed.

When, at the beginning of the autumn term 1943, all teaching ceased at the University of Oslo because of the war, conditions for educational research became even more difficult. Also, the science of education in Norway suffered a heavy blow in the same year in the loss of one of the most promising personalities in education, Dr. Einar Høigard, Reader in Education at the University. The loss was sorely felt, even more so because Norway at the time stood on the brink of a period of expansion in the field of education. Before his death Dr. Høigard had succeeded in publishing his extensive work on the history of Oslo Cathedral School,⁴³ in which the clarity of thought and method of presentation so characteristic of the author found its most valuable expression. He also succeeded in carrying out, during this last part of his life, an investigation of the correlation between the marks given for the matriculation examination and those for the university degree and the teacher's certificate from the Arts Faculty. The result of the investigation, an interesting contribution to the discussion on methods of selection for higher education, was published after the end of the war.⁴⁴

School Board Committee for Research

The war also put a brake on the activities of the Oslo-Aker school board committee for educational research, although in 1941 the committee issued a work by B. Ribsskog on intelligence testing in the first grade of the elementary school.⁴⁵ Ribsskog's book included an account of a revision and standardization of Kuhlmann-Anderson's group test. In the same year, the committee published a thesis by Karsten Heli on pupils who fell behind in the secondary schools,⁴⁶ but did not produce any further works during the war.

The committee sponsored a number of studies in the early postwar period, starting in 1946 with Emil Østlyngen's doctoral thesis on twins,⁴⁷ a work concerned primarily with general psychology but also of importance to education. In 1947, the committee published August Lange's book^{48 49} which analyzed the results of a poll taken to throw light on the question of why people choose teaching for their career. The following year, 1948, another study by Ribsskog and his associates appeared.⁵⁰ It ascertained the percentage of pupils forced to repeat classes and analyzed the backgrounds of the pupils, the effect on them of repetition of classes, and proposed possible ways to help such students.

Institute for Educational Research

Just after the end of the war, in 1945, on the occasion of Professor Helga Eng's 70th birthday, some of the earlier studies carried out at the Institute for Educational Research were reprinted in a single volume.⁵¹ A year earlier, in 1944, Dr. Eng's latest work had been published, a continuation of her 1926 study on children's drawings.⁵²

The work of the Institute from the beginning was related to the teaching of education at the University of Oslo.⁵³ In July 1945 Johs. Sandven was appointed Reader in Education at the University, a position that had been vacant since the death of Einar Høigård. Professor Eng, who had reached retirement age in 1940, continued as professor in the University and as director of the institute until her retirement in July 1948. The duties of acting professor and director then fell to Johs. Sandven, and his appointment to the dual position was confirmed in March 1950. Apart from Professor Eng and Dr. Sandven, no research workers had any permanent connection with the Institute during the first postwar years. It is obvious, therefore, that during this time the work of the Institute was of necessity limited in scope.

Various projects did get under way, however, and gradually the Institute's publications series was resumed. In 1946, number 4 in this series was issued, Johs. Sandven's doctoral thesis on "Thinking and its Development in Adolescence."⁵⁴ Based on investigations of a great number of pupils representative of all stages in the secondary schools, Sandven's main conclusion was, that the development of the ability to think, at least for persons in the upper part of the distribution curve, is gradual throughout adolescence and appeared to be in the direction of increased ability to analyze critically complicated problems.

In 1947, the Institute published a doctoral thesis by Kathrine Simonsen on the vocabulary in textbooks in the secondary schools.⁵⁵ Word tests had been given in a number of subjects to pupils in the secondary schools. On the basis of these tests, comparisons were made between the pupils' understanding of the concepts, on the one hand, and the vocabulary in the textbooks on the other. In 1948, a work by Gunnar Husabø was published on vocational interests among children of high school age.⁵⁶ Pupils in the second and top forms, or grades, in the secondary school, which had five forms altogether, were asked to tell what profession they intended to take up, if they had made up their minds, and to answer a number of related questions. The results showed that the engineering profession and work as technicians were most popular among the boys both in the lower and

higher forms in the secondary school, while teaching, nursing and child nursing professions and clerical work were most popular among the girls.

In 1949, nothing was issued in the Institute's publications series, but two numbers were published in 1950—one by John Hofseth on children's understanding of arithmetical expressions,⁶⁴ the other by Kjellfrid Bjarvin on reading.⁶⁵ Hofseth's book is based on empirical investigations of pupils' understanding of the different arithmetical expressions as they appear in textbooks for the different grades. Kjellfrid Bjarvin's work is an historical study of how the textbook for beginners in reading has developed from the time of the first reading-board to the present.

Among other studies carried out in connection with the Institute, but published outside its series, is Eva Nordland's book on the psychology of adolescents, with special emphasis on the problem of adjustment in adolescence.⁶⁶ Her thesis for the master's degree on the growth of the personality ideal in adolescence, is to a great extent incorporated in this book.

Unsponsored Research

Outside the Institute's publications series Johs. Sandven's book analyzed the clash of ideas in education in the United States,⁶⁷ arising out of the changing and many-sided educational debate in the country in the 20th century.

In the postwar period a number of historical studies appeared which greatly enriched Norway's literature on education. Thus, in 1947, Einar Boyesen's 2-volume work on Hartvig Nissen and the reform of the Norwegian school system was published,⁶⁸ a work which won a doctorate for the author. Another doctoral thesis was Halkild Nilsen's work on church and school conditions in Bergen in the time of Bishop Neuman.⁶⁹ Furthermore, in 1949, a 2-volume edition by Dr. Asbjørn Øveraas on Fredrik Moltke Bugge and his efforts for the promotion of cultural-work in the 1830's, attempted to give Bugge a place as one of the leading personalities of the 19th century.⁷⁰ Other historical works within the field of education in the early post-war period are: L. Sølvberg's book on Johan Anton Lippestad and his work;⁷¹ E. Tjønneland's book on Pestalozzi;⁷² E. Høigard and H. Ruge's history of the Norwegian school;⁷³ T. Dokk's study of educational traits in Norwegian literature;⁷⁴ K. Foss's book on general education;⁷⁵ and O. Hoprekstad's analysis of schools in Bergen and their staffs up to 1889.⁷⁶

Among empirical works completed by individual research workers outside the previously mentioned research organizations, may be mentioned the book by P. Kolstad on fatigue and learning.⁶⁰

Even though the period immediately after the war did not see the effective and systematic extension of educational research which had been anticipated, there was increased understanding of the need for educational research, and training in education on a high level. In the 1950's important steps were taken to meet this need.

Developments After 1950

The event having the most important effect on the development of research in the period after 1950 was the decision of the Norwegian Government to allocate a considerable part of the profits from football lotteries to support research. Of the three research councils set up to utilize the money, one was the Norwegian Research Council for Science and the Humanities, established in 1949.

Norwegian Research Council

The Council consists of 32 members recruited from the following five fields for its activities:

- A. Languages and history
- B. Social sciences
- C. Psychology, education and youth problems
- D. Natural sciences
- E. Medicine

The Norwegian Research Council for Science and the Humanities has as its mission the "Promotion and encouragement of scientific research in Norway in the humanities, social studies, education, natural sciences and medicine."⁷⁰ More specifically the money made available to the Council is used for:

- A. The support of scientists and scientific institutions in carrying out specific research projects.
- B. The support of scientific institutions in establishing new research institutes.
- C. Research projects initiated by the Council itself, either at existing institutions or at laboratories or institutes which the Council itself established and operated.
- D. Scholarships for scientists.
- E. The support of the publication of scientific and semi-scientific papers, in some cases published by the Council itself.

Up to the present time the Council has in the main limited its activities to supporting already existing institutions in their research projects, or to giving grants to individual research workers. In addition, the members of the Council have been able to influence the selection of projects and their formulation, by consulting with institutions and individual scientists.

Gradually the scope of the Council's activities has broadened. Expansion of research in psychology, education and youth problems

has been somewhat less than that in other fields, due in considerable degree to lack of sufficient facilities and research personnel to keep pace with the projects envisaged. It takes time to train the necessary research personnel; moreover, to make proper use of yearly research grants, it is necessary that the permanent staffs of academic institutions have sufficient free time for research projects.

The recent years have seen a marked improvement in facilities, but not until the current plans for new research buildings have been carried through in Oslo, Bergen and Trondheim can there be adequate educational research centers. Moreover, in recent years the marked increase in students in higher education has had a limiting effect on research work. A number of the students carrying out advanced research with grants from the Research Council have had to be diverted to teaching positions.

Group C.—Psychology, Education, Youth Problems

Activity of the Council in group C (psychology, education, youth problems) centers mainly in institutions in Oslo. Outside Oslo, large scale research is pursued only at the College for Business Administration in Bergen, under the Institute for Industrial Psychology and Personnel Work, and at the Norwegian College for Teachers and the Norwegian Technical Academy in Trondheim. In Oslo efforts have been concentrated at the University of Oslo, where projects are under development at the Institute for Educational Research and at the Psychological Institute. Research programs have also been developed at the Psychological Department of the Military Forces and at the Institute for Social Research.

A tabulation of the grants from group C for the period 1950–60 gives an impression of the magnitude of the research undertaken by institutes or research workers associated with:

	<i>Million kr.*</i>
1. The University of Oslo.....	1.30
2. The Norwegian College for Teachers and the Norwegian Technical Academy.....	0.19
3. The Norwegian College for Business Administration and Personnel Work.....	0.85
4. The Psychological Department of the Military Forces.....	0.39
5. The Institute for Social Research.....	0.38
6. Other institutions.....	0.35
7. Special projects.....	0.51

The greater part of the research carried out under group C has been of the empirical type, with the period of adolescence receiving

*According to the current exchange value a U.S.A. dollar is 7.16 Norwegian crowns (kr.).

considerable attention. Group C grants for the period 1950-60 and subject fields are:

	Million kr.
Adolescence	89
Adult life	86
Elementary school age	54
Empirical research not attached to any definite age phase	51
Historical research	22
Preschool age	21
Practical activities related to research	16

It is a rich and varied activity that has taken place under group C. At the same time the research has not kept pace with the constantly increasing need for understanding of maturation and learning, personal adjustment and human relationships, and cooperation. The increasing number of children and adolescents in each age group; the remarkably more pronounced demand for further education in all types of schools at the adolescent stage, as well as at the university and college level; the reorganization in Norway in recent years of the structure, content and methods of the school; the attempts gradually to introduce a psychological service; the increasing awareness of personnel problems in industrial life; the broadening of services and aids introduced in the social sector—all of these factors have resulted in conditions that necessitate more intensive research effort. With financial support from the Norwegian Research Council, existing agencies have risen to the challenge and have extended their research activities into several important areas.

Tests of Maturity

Thanks to yearly grants from the Norwegian Research Council, the Institute for Educational Research of the University of Oslo embarked, in 1950, on a large-scale project to construct three series of maturity tests for children between the ages of 6 and 15 years: (1) 6-8 years; (2) 9-11 years; (3) 12-15 years. The tests were adjusted and standardized for rural as well as urban populations. This project was brought to conclusion in 1953, when all three series, constructed by Johs. Sandven and a number of collaborators, were completed and printed.¹¹ Each one of the series was worked out in two forms, one for each of the two dialects of the Norwegian language, *bokmal* and *nynorsk*. The corresponding instructions for these tests in each series were also worked out in the two language forms. The norms for the first age group were the result of the testing of 2,800 children; for the second age group, 3,600; and for the third group, 3,900 children.

After the work on the construction and standardization of the maturity tests was completed, the Institute for Educational Research

made a followup study of the same children who had taken part in the previous investigation. The new project had a two-fold aim; (1) to discover to what extent maturity testing of the different age groups predicted later performances on tests of a similar character; and (2) to find out to what extent the maturity tests could give a prognosis of future school performances.

Special interest was attached to prediction of future performance in school. As these test series had been constructed with precisely the mental maturity factors related to school in mind, it was hoped that predictions could be made with greater confidence than from ordinary intelligence testing. The maturity tests were also of special interest in connection with guidance and differentiation at school entrance age, and in relation to the question of further education or training after completion of elementary school. It was also regarded as important to clarify, as far as possible, what function maturity testing could serve in a systematic program of guidance.

From the data collected so far from the followup study there is reason to believe that maturity testing might be able to play an important part in guidance work in school, and become a valuable means of preventing failure in school.^{72 73}

The first series of the maturity tests has already been used for a number of years by various school psychologists in collaboration with the Institute of Educational Research. The experiences up to the present time are, to a large extent, encouraging. For prediction purposes, it has been shown that the intellectual capacity of the student in a general sense is the safest basis upon which to judge. It appears from the investigations that the personality to a high degree functions as a whole. Study of the intellectual profiles of the individual students has brought to light that the possibility of very specific prediction on the basis of such profiles is limited. The thinking capacity of the student may be utilized in different directions, which depend to a greater extent upon the channels into which the interests are led through influences in home and school than upon possible differences in the fundamental structure of abilities. When using maturity tests in school psychological work it is of considerable importance to be aware of these circumstances.

On the basis of the experience gained during the prediction studies, a project was started at the Institute in the late 1950's to secure insight into the nature of functional interrelations in the individual. Particular care was taken to bring into the picture not only intellectual functions, but also reaction tendencies that have to do with character, social characteristics, and the inner harmony—what may be called

the emotional consonance. As far as the social area is concerned, the work has been concentrated on a trait or function that, as far as is known, has not earlier been subjected to scientific study. It is given the name of "coreactive behavior" or simply "coreaction." The concept indicates a dimension having to do with the degree to which the subject reacts with another person or a group of other persons present in a situation. As regards the inner harmony, the work so far has concentrated on a function termed "security tendency," having to do mainly with the degree of self-confidence in an individual.

As the methodological problems in connection with these investigations were unusually difficult, a considerable amount of the work was devoted to the development and trying out of new methodological principles. As a result, fruitful attacks on the problems of psychological interrelations are now within the realm of possibility.^{74 75 76}

Other Council Projects

The projects at the Institute for Educational Research are among the most extensive efforts within the educational sector classified under group C of the Norwegian Research Council's program. But other projects which the Council has supported have also been broad in scope, some having been carried out in association with the Institute.

In this way, Eva Nordland, for a number of years, received support for an investigation of the correlation between methods of education and social attitude and behavior of children of preschool age. Systematic observations of the child's behavior in the nursery school were undertaken and, at the same time, the attitude of the parents was also studied, through visits and observation in the homes. The investigation was completed according to plan, and an account of the results has been published.⁷⁷

The Council also supported a study of reading difficulties among beginners in the elementary school. Before entering school, the children were examined in a number of tests, including the first series of the maturity tests. The children were later observed and evaluated during their time in school. Comparisons were then made with the results of the previous examinations, for the purpose of arriving at a basis for prediction and prevention of reading difficulties.⁷⁸

Further, an investigation of the factors impeding the learning of arithmetic during the first years at school has been in progress for a number of years, with financial support from the Council. Under the direction of Per Rand, the project has sought a method of diagnosing difficulties in arithmetic study, and remedial teaching procedures to overcome the difficulties. From the results of his studies, Rand has published a book on problem-solving and selective memory.⁷⁹

Norwegian College for Teachers

Research has also been accomplished at the Norwegian College for Teachers, under Sigurd Nørstebo, who is in charge of the education department. Nørstebo has issued a report on the background of John Dewey's educational theory and its development,⁸⁰ and has also made a study of religious education in American schools.⁸¹ In addition, Nørstebo has completed investigations on stereotypes among children as to their conception of people belonging to different nationalities,⁸² and on the attitude and thinking of children.⁸³

Another study completed at the College for Teachers is by Sverre Sletvold on children's attitude to literature.⁸⁴ Martin Strømnes, also attached to the college, has published an account of the development of Norwegian teaching programs and problems related to those in the United States.⁸⁵

In 1960 the Norwegian College for Teachers moved into new buildings, and there is reason to believe that the improvement in working conditions will make it possible to intensify research work at the college.

Historical Studies

The history of Norwegian education continues to be a subject of interest to researchers. For example, an investigation of the historical development of adult education has been undertaken,⁸⁶ which complements a study done by Egil Nilsen on current interest patterns among adults.⁸⁷ Helge Dahl has made a study of the development of education in Finnmark (Norway) in the last century, with a special view to the language problem.⁸⁸ The same author has also given an account of Norwegian teacher education from 1814 up to the present time.⁸⁹

Comprehensive investigations within the historical sector, by Hans-Jørgen Dokka, aimed at clarifying the lines of development in the Norwegian elementary school in the last part of the 19th century. Bjarne Bjørndal concentrated his study on one of the outstanding Norwegian educators of the same time, P. Voss.⁹⁰

Among other historical works may be mentioned Halkild Nilsen's book on the school system and adult education in the Bergen area, 1800–1850.⁹¹ A thesis on one of the central figures in education in the last century, Ole Vig, was completed by Torstein Høverstad.⁹² Another aspect of the history of Norwegian education in the last century was Roar Sanderud's work on the controversy caused by the introduction of readers in schools.⁹³ Trygve Dokk made a study of education under the old industrial system, and published a work on this subject.⁹⁴ A number of anniversary publications with contents of

historical interest have also been issued. For example, on the occasion of the 800th anniversary of the Cathedral School in Trondheim, A. Øveraa, in collaboration with J. Due, published A. E. Eriksen's "*Trondhjems katedralskoles historie*" in a revised and extended edition.⁹⁶

Education—Psychology

Within the educational psychological field, two major works were published by the Oslo-Aker schoolboard committee for educational research in 1951. One of these is concerned with the correlation between ability and performance in schoolwork;⁹⁷ the other seeks to throw light on the peculiarities of those children who are truants, and to find factors in their environment influencing their actions.⁹⁸

Further, Kathrine Simonsen, as a result of continued studies of the vocabulary in textbooks, has published a book on the most important and frequent words used in textbooks.⁹⁹ Helga Eng has carried on with her studies on drawing in childhood and youth, in her book, *The Psychology of Child and Youth Drawing*.¹⁰⁰ Ruth Frøyland Nielsen has published an analysis of social development in children.¹⁰¹ Øyvind Skard's book on aptitude for university and high school studies,¹⁰² and Ragnar Rommetveit's analysis of social norms and roles,¹⁰³ both have their orientation in general psychology, but, nonetheless, are of interest from an educational aspect.

It is not possible here to give a full account of all the individual research works that have been carried through. Some are on the borderline between educational research in the proper sense and more general psychological research. This is the case, for instance, in the investigations of the influence of education on the development of intellectual abilities, undertaken by V. Coucheron Thrane in the psychological department of the Military Forces. The same may be said about the work of Åse Gruda Skard at the Institute of Psychology at the University of Oslo, who for a number of years has engaged in an investigation of the influence of environment on the development of children in the east-side districts of Oslo. To this group also belong the experimental investigations within the psychology of learning, by Jan Smedslund,¹⁰³ and the investigations by Sverre Brun Gulbrandsen concerning juvenile delinquency.¹⁰⁴

Institute's Publication Series

The results of the research at the Institute for Educational Research of the University of Oslo have been published partly in two series edited by the Institute. The first, published in 1951 as number 9, was a continuation of the series begun in 1941, dealing with reading interests in the lower and middle grades of the secondary

school.¹⁰⁵ Number 10 of the series, published in 1952,¹⁰⁶ was a report on an investigation into cinema-going habits and film interests among the youth of Oslo. In the same year, number 11 in the series was published, a work on mathematics in the first grade of the secondary school.¹⁰⁷ Number 12 was the previously mentioned work by Gjessing on reading, and number 13, a work by A. Stølen, dealt with students' reactions to two different methods of teaching about the effects of alcohol, one emphasizing objective information, the other making special appeal to the emotions.¹⁰⁸

In 1954 the Institute began series II. As the series of publications up to this time had been limited to larger works published separately, the need was recognized for studies of rather narrower scope and more suitable for publication in a collected form, or in extracts. The first volume in this series contains six such subjects, namely:

1. The teaching of the beginners in reading in the U.S.A. and Norway.
2. Children's reading of weeklies and newspapers.
3. Interest in essay-writing in the higher forms in the secondary school: an investigation among pupils in the top forms.
4. Environment and progress in school.
5. Hymns and religious songs in the elementary school: a study of the attitude to, and the understanding of these among children.
6. The attitude of young people to their own education: the main feature of an investigation among young people at school in Oslo, aged 12-18 years.¹⁰⁹

The second volume appeared in 1956 and contained the following subjects:

1. Society and the choice of vocation: an investigation conducted in the seventh grade of the schools in Oslo and Aker, 1948.
2. The monitorial system and its use in the Norwegian school.
3. Spelling, learning material and results.
4. Understanding of cause and effect in history in the top grade of the elementary school.
5. Sound-film as a means in teaching.
6. Minnesota multiphasic personality inventory as an aid in personality diagnosis in adolescence.¹¹⁰

In 1958 two new volumes in the second series appeared. The contents were:

1. On the formation of number concepts in retarded children aged 10-14 years.
2. Strauss' and Werner's Finger Schema Test: a description of the test and a small experimental contribution to throw light on its usefulness as an educational-diagnostic aid in the teaching of arithmetic, and as an aid to sort out students with difficulties in arithmetic.
3. A contribution to the clarification of the problem of centralization in the rural school: general exposition and a study of the examination results in Norwegian and arithmetic from schools divided into respectively seven, four, and two consecutive grades.

4. Geographic understanding and overview in the top grade of the elementary school in the rural districts.
5. The introduction of the teaching of English in the elementary school: the status of foreign language teaching and how it is organized.
6. The vocabulary in three textbooks in English for the elementary school.^{113, 114}

In 1960 the fifth of the volumes in the series appeared and contained:

1. Teacher training in relation to the work in school.
2. Musicality and musical interests.
3. The development of number concepts as viewed by Piaget.
4. Children and their reading of comics.¹¹⁵

Finally, it must be mentioned that the Institute for Educational Research put in a great amount of work on the establishment of a Norwegian adaptation of Terman-Merrill's Stanford-revision of the Binet tests. Because of the many individual tests which were necessary, and the extensive work with the adjustment of the forms of the subtests, the project required several years, but was completed in 1954.¹¹⁶

In 1961 the Institute moved into new quarters, much to the satisfaction of all concerned. With the new premises centrally located in the city, foundations have been laid for a considerable extension of activities, though there is already a feeling that even here lack of space will soon be a hampering factor. In the course of the next 5 years, the Institute for Educational Research will be moved to new and modern buildings about to be erected in the new University area at Blindern, on the outskirts of Oslo.

Prospects for the future of educational research in Norway are encouraging. The understanding of the importance of educational research, marking the first years after the end of the war, must be said to have been present in a high degree in recent years. It is to be hoped that this understanding will become so strong and widespread that Norway gradually may embark on a program of extending and intensifying the work of research, thereby raising teaching and education to a level which will fulfill the demands of the time.

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